

Use of Multicast Across Inter-Domain Peering Points

Last Call Comments & Responses

Percy S. Tarapore, AT&T

Robert Sayko, AT&T

Toerless Eckert, Cisco

Comments from Dale Garder

- General Comment :
 - This would have been good “10-15 years ago”. So WHY NOW??
- *Authors Response:*
 - *There is a significant increase in Video Delivery and Distribution via CDNs and Industry Acquisitions (e.g., AT&T & DirectTV merger).*
 - *Example: Reduction of IPTV headends – reuse across multiple regional networks -> More interdomain (intra-cooperation) multicast.*
 - *Increase in On-Net, Off-Net, & OTT video distribution*
 - *We see Rapid & Increased role for Multicast Delivery across Service Providers, Source Content Providers, & Third Party Channels Going Forward!!*
 - *Very challenging to provide a good compromise between too little and too much. We have tried what we think is a reasonable compromise. Our goal can only be that it is more useful to have this doc as an BCP than to not have any such document. We know we can not make everybody happy with this.*

Dale Garder – Specific Comments

- Section 1:
 - Comment: Why assume ONLY COMPATIBLE PROTOCOLS across Administrative Domains?
 - Author’s Response: Incompatible Protocol resolution may require new RFC in it’s own right:
 - Out of Scope of BCP
 - Can be Pointed out as a Gap that needs to be addressed as New Work.
 - Maybe “compatible” is not the correct word. The document focusses on a subset of “best available, IETF preferred/standardized” protocol options – otherwise it would even be larger.
- Section 1:
 - Comment: AMT only applies to Use Cases 3.3, 3.4, & 3.5
 - Author’s Response: Will change text to indicate no applicability to Use Cases 3.1 & 3.2

Dale Garder – Specific Comments

- Section 3.1:
 - Comment: Add text to Guideline (c) for “policy to allow certain groups only from Administrative Domain 2”.
 - **Author’s Response: Agreed**
 - Comment: Add Guideline (e) to ensure proper filtering between networks per supplied text.
 - **Author’s Response: Accepted**
- Section 4.3:
 - Comment: “Is IETF Dictating How to Operate One’s Network?”
 - **Author’s Response: Absolutely Not!! This is a BCP not a Normative or Prescriptive RFC. This is a set of Guidelines to assist Network Operators for setting up a peering arrangement.**

Dale Garder – Specific Comments

- Section 5:
 - Comment: Add description for “Looking Glass Style “method for faster resolution per supplied text.
 - **Author’s Response: Accepted**

Dale Garder – Specific Comments

- Section 6:
 - Text should be added to invoke BCP-38 style filtering.
Something like each multicast peer **MUST** (can you say **MUST**?) employ BCP-38 style filtering to ensure they are not sourcing multicast content nor any network control state that should not be legitimately sourced by that network. .
 - **Author's Response:**
 - **IMHO BCP-38 was not written with multicast knowledge in mind, so it may be dangerous to explicitly refer to it.**
 - **All proposed multicast protocols to be used in this BCP to themselves rely on RPF. Arguably more? Security than BCP-38 ??**

Lenny Giuliano – General Comments

- Comment 1:
 - Document is Too Long.
 - Authors: If 2 Operators intend to setup a Multicast Peering Arrangement, then they will need to read **Complete Guidance** regardless of the length of the document.

Lenny Giuliano – General Comments

Comment 2

- Comment 2:
 - “Sections 4-6 can be replaced with a single sentence: "Do whatever you are doing for unicast peering." Unicast peering has been done for decades, and all of these issues have been well understood and addressed.”
- **Author’s Response:**
 - This comment has been made several times. Authors have pushed back strongly – these sections are necessary for complete BCP!!
 - Target Audience for BCP:
 - Service Providers
 - Content Source Providers
 - Third Party Distributors

Lenny Giuliano – General Comments

Response to Comment 2

- Per Previous Discussions, Previous Section 4.4 (Settlements) was deleted.
- Breakdown of Length (in Pages) of Sections:
 - Section 4.1 (Transport & Security): 1 Page
 - Section 4.2 (Routing for 5 Use Cases): 6 Pages**
 - Section 4.3 (Billing & Logging): 3 Pages
 - Section 4.4 (Operations): 2 Pages
 - Section 4.5 (Reliability Models): 0.5 Page
 - Section 5 (Troubleshooting): 0.5 Page
 - Section 6 (Security): 0.5 Page

*** Routing Aspects relate to the 5 Use Cases in Section 3. We could move these to Section 3!! This could leave 7.5 Pages for Sections 4-6!!*

Lenny Giuliano – General Comments

Response to Comment 2

- **Relevance & Importance of Back Office Functions Demonstrated by work in CDNI WG:**
 - CDNI Logging Interface: draft-ietf-cdni-logging-20
 - Specifies the Logging interface between a downstream CDN(dCDN) and an upstream CDN (uCDN) that are interconnected as per the CDNI Interconnection (CDNI) framework.
 - 49 Pages in Length!!
 - By contrast, our BCP:
 - Very Brief Description on exchange of logs between two Administrative Domains involved in Multicast Peering
 - **LESS THAN 1 PAGE!!**

Lenny Giuliano – General Comments

Response to Comment 2

- Section 5 was Introduced Based on Comments that Clearly Stated a NEED for this Section:
 - Request for Additional Troubleshooting Description Made in IETF 92 (Dallas).
 - New Request from Dale Garder – See Slide 5.

- Summary:
 - We have been having these same discussions for at least 4-5 meetings:
 - Same Concerns
 - Same Responses
 - *If Appropriate Standards References Can Be Found, We Can Point to Them*

Lenny Giuliano – Specific Comments

- Section 1:
 - Protocol Comments:
 - ASM vs SSM??
 - Odd list of Protocols.
 - **Author's Response:**
 - **Current Mode of Operations Indicate SSM as Preferred Method.**
 - **Agree that a Complete List of Applicable Protocols should be Included. Willing to Work on Appropriate Text for Inclusion.**

Lenny Giuliano – Specific Comments

- Section 3:
 - AMT & GRE Use Cases May Not Apply??
 - **Author's Response:**
 - We have setup Multicast between our Administrative Domains with AMT in case where peering point is not multicast enabled.
 - In some cases we have also deployed GRE tunnel
 - Duplicity of GRE AND AMT in deployments or HW-accelerated router implementations may be not ideal. This BCP describing how to support all non-native cases with AMT is one option to remove this duplicity.
 - Bottom Line: Intent is to have a Complete BCP Guide that Accounts for **ALL POSSIBLE CASES!!**